

DEPARTMENTAL INPUT
CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

☒ New ☐ OTR ☐ Sole Source ☒ Bid Waiver ☐ Emergency Previous Contract/Project No. None
Contract
☐ Re-Bid ☐ Other LIVING WAGE APPLIES: ☐ YES ☒ NO
Requisition No./Project No.: RQSW1100003 TERM OF CONTRACT 0 YEAR(S) WITH 0 YEAR(S) OTR

Requisition /Project Title: Grizzly Crane

Description: To purchase and install a Grizzly knuckleboom crane for the Department of Solid Waste Management.

Issuing Department: DPM Contact Person: Km! Ra Phone: 305-375-1291
Estimate Cost: \$210,000
Funding Source: GENERAL FEDERAL OTHER
X *Proprietary Funds*

ANALYSIS

Commodity Codes:	<u>765-03</u>				
Contract/Project History of previous purchases three (3) years Check here <input checked="" type="checkbox"/> if this is a new contract/purchase with no previous history.					
	<u>EXISTING</u>	<u>2ND YEAR</u>	<u>3RD YEAR</u>		
Contractor:					
Small Business Enterprise:					
Contract Value:		\$	\$		
Comments:					

Continued on another page (s): ☐ YES ☐ NO

RECOMMENDATIONS

	Set-aside	Sub-contractor goal	Bid preference	Selection factor
SBE				

Basis of recommendation:

Signed: <u>Km! Ra</u>	Date sent to SBD: <u>05/06/2011</u> <u>95:1 PM 6-11-11</u>
	Date returned to DPM: <u>06/11/2011</u> <u>1:30 PM 6-11-11</u>

3.1 SCOPE

The successful bidder shall remove an existing solid waste handling crane and shall supply, assemble, and connect all hydraulic and control lines for a new electrically powered hydraulic actuated stationary Grizzly 215 SW knuckle boom crane or approved equal. The successful bidder shall install and provide start up services for the new crane. The new crane shall be delivered to a selected location within the premises of the Northeast Transfer Station located at 18701 NE 6th Avenue, Miami, Florida.

The Engineer and site superintendent shall be given written notification 96 hours in advance of the scheduled delivery date and time. The vendor shall be present at the site to deliver the crane and shall be solely responsible for the off-loading and transportation of the subassemblies to their final location prior to the installation.

The crane manufacturer or the awarded vendor shall visit the site and avail themselves of existing site conditions and verify that the base plate for the new crane can be adequately supported by the existing concrete base.

The awarded vendor shall install the crane at a location, which is currently occupied, by an existing crane. The existing crane shall be removed and relocated within the premises for evaluation by the Solid Waste Department. The new crane will be installed on the existing concrete crane base, using new anchor bolts supplied by the vendor. The awarded vendor shall be responsible for inspecting, evaluating, and replacing current anchor and J-bolts for wear, stretch, and corrosion. All and any necessary repairs shall be made by the awarded vendor prior to the installation of the new crane. The final location of the replacement crane shall be field verified prior to installation. Crane base drawings and a full size template showing the manufacturer's bolt pattern shall be required as a submittal prior to the manufacture of the crane.

In addition, the following parts shall also be purchased: one (1) non-rotating grapple complete assembly; one (1) main boom complete assembly; two (2) main and jib cylinders butt pin #8252-6; one (1) knuckle pin #8252-3; two (2) jib cylinders rod end butt end pin #8252-7; three (3) wristing pins #8252-4; one (1) main boom head pin 16 7/8 X 2 1/2; one (1) main boom butt pin 5 11/16 X 2 1/2; one (1) wristing extension 6393; one (1) monkey motion assembly #6299; one (1) monkey motion arm (right); one (1) monkey motion arm (left); and one (1) stainless steel cab or equivalent parts.

3.2 TECHNICAL CRANE SPECIFICATIONS

The crane shall be furnished complete with frame, operator's cabin, boom, base, grapple, electric motor, hydraulic power system, and anchor bolts along with all accessories

normally required for proper operation. The knuckle boom crane shall be a Grizzly 215 SW or another approved equal Solid Waste Crane.

Bids submitted as Approved Equal shall be submitted with complete data and drawings at the time of bid. A complete description of the proposed system and a detailed specification sheet must be provided with the price proposal. Cranes proposed as Approved Equal shall be required to conform to all dimensional and performance measures as stipulated in the technical specifications.

The County shall be the sole judge of evaluating and determining the Approved Equal equipment to the equipment specified. Approved Equals will be considered on the basis that: equipment proposed is equal or superior in construction, and efficiency to that specified in the specifications, and quality has been demonstrated in service in a similar installation providing the same intended use.

The award of this contract shall constitute the contractual obligation to furnish the specified equipment or an approved equal.

3.3 POWER SUPPLY

The crane shall be powered by a 480 volts three phase 60 Hz supply. The electrical service enclosure shall be NEMA 3R and shall be securely mounted to the hydraulic power supply and shall be equipped with a fused disconnect switch protected by Dual Element current limiting Class RK1 fuses or an appropriate 3 pole thermal magnetic 150-amp breaker. A suitably rated NEMA Motor Starter with integral overload unit shall be contained within the service enclosure.

The electric/hydraulic power pack shall be located on a separate, remote 4' x 6' platform. The actual power pack location shall be field verified and will be decided upon prior to the delivery of the crane. Submittals detailing the foot print dimensions, full weight, piping/conduit schedules and required clearances shall be provided as part of the technical submittals. All control wiring, piping and conduits shall be installed by the vendor using suitable methods.

3.4 MOUNTING PLATE

The crane base plate mounting plate shall be 60" x 60" and of sufficient thickness to withstand crane movements without permanent deformation. The crane base plate shall be mounted on heavy duty, oil resistant shock resistant isolation pads. No position of the crane or its accessories will extend more than 80" behind the centerline of rotation of crane.

3.5 PAINTING

3.5.1 All exposed surfaces of crane shall be factory primed and painted with two coats of paint.

- 3.5.2 The Crane Operator's cabin shall be made of stainless steel, factory primed and painted with two coats of paint. Operator's cabin outside final coat will be epoxy paint to provide additional resistance to rust. Paint shall be the same tone of orange as existing machines.

3.6 EASE OF MAINTENANCE

- 3.6.1 Design of crane shall permit ease of access for removal and replacement of components for service and adjustment with minimum disturbance to other elements. The cab shall have removable covers on the sides of the deck and a door in the top of the deck for ready access to parts beneath cab-deck.
- 3.6.2 The entry point of the hydraulic hoses from the remote power unit into the base of the unit will be through connections on the wall of the base that will allow easy access to replace the hoses when needed. Presently, this is a blind area that doesn't allow access and identification of hoses when replacement is needed.

3.7 CONDITIONS OF SERVICE

The articulated crane shall be hydraulically operated, electrically powered, with a solid waste grapple. ~~Crane shall be of~~ integral heavy-duty construction, complete with operating accessories customarily furnished with cranes of this type, together with modifications and optional attachments as specified.

3.8 CONSTRUCTION AND SPECIFICATIONS

A. FRAME AND BASE FOR GRIZZLY 215 SW OR APPROVED EQUAL

Crane frame and base shall be fabricated steel, reinforced and designed to withstand the maximum stress normally imposed in heavy duty solid waste crane operations. The new crane shall not exceed existing crane height.

B. SPECIFICATIONS

Compaction/down force	5000 lbs., mm. at full extension
Operating Pressure	2000 psi
Lift Capacity	21,500 lbs. at 8' max
Mast Dimension	33" dia. X 48" max. height x 1/2" wall
Overall Boom Length	25' 1"

Below-ground-level reach	13 ft., max., standard
Boom Material (Steel)	6" x 10" x ½"
Grapple	1/3 cu. Yd., solid waste type with Compacting plate
Grapple Weight	1500 lbs., approx.
Main Cylinder	1) 7" x 36" w/3" rod dia.
Jib Cylinder	1) 6" x 36" w/3" rod dia.
Grapple Cylinder	2) 3.5" x 8" w/1.5" rod dia.
Main Valve	Stack type
Hydraulic Pump	Triple, 20/20/15 gpm
Main Bearing	39" dia. Internal gear (weld-on type)
Electric motor	NEMA TEFC 50 hp, Mill and Chemical Duty 460v, 3-phase, 60 Hz
Swing System	Commercial Shearing drive motor, Fairfield S3-A planetary gear box or approved equal
Swing Speed	Variable to 2 rpm
Swing Torque	6,250 ft. lbs Min.
Mast Rotation	360-degree, non-continuous
Motor Starter	Combination, with 150 amp circuit breaker, mounted on hydraulic unit.
Accumulators	2, nitrogen filled, main and jib Circuits
Hydraulic Tank	125 gal Capacity
Filtration System	2 return-line filters; 3 suction filters
Power Control Switch	Off-on, mounted at controls

Gauges	Hydraulic fluid level/low level shut-down
Controls	Dual joy-sticks left (2ea) and right (2ea)
Operator's Cab	Insulated with provisions for AC Duct. Insertion from Wall Mount AC. Cab is required on left side of the boom
Operator's Seat	Adjustable four ways: up-and-down, front-and-rear
Mounting Plate	5' x 5' x 1.5" with 1" shock-absorbing pad
Paint	Two coats of Acrylic (Big Bad Orange)
Embeds	Mates for mounting plate, furnished

C. **BOOM**

The crane shall be furnished with a straight articulating boom. The boom shall be of all-welded steel construction, with replaceable bushings.

Head, knuckle, and wristing pins shall be a minimum of 2-1/2" diameter. The head bolt bushing retainer shall be reinforced 1-3/4" on each side. The cylinder pin side plates shall be 1" on each side. The knuckle pin boss shall have 1-1/4" reinforcement on each side. All pins shall be retained by castle nuts with a minimum of 2" threaded diameter, capable of being locked to the pin to prevent loosening. The boom shall be connected to the bearing plate by two head ears 1 1/4" thick, recessed into the bearing plate. The bearing plate shall be 1" thick.

D. **ELECTRIC MOTOR**

The crane shall be driven by a minimum of a 50 hp mill-and-chemical-type TEFC motor will be rated at 460 volts, 60 Hz, three phases.

E. **HYDRAULIC SYSTEM**

The boom and grapple shall be actuated by double-acting hydraulic cylinders with chrome-plated piston rods. The hydraulic pump shall provide sufficient flow and pressure to meet lift and compaction requirements, as specified. The hydraulic pump shall be capable of performing more than two crane functions simultaneously without reducing power to the functions. Sufficient hydraulic circuit and reservoir capacity shall be furnished for sustained continuous operation cycles without overheating. An efficient oil filtering system shall be provided, with filter elements readily accessible for removal and replacement.

Hydraulic oil level shall be readily accessible for examination and maintenance. Should the oil level drop below a predetermined level, a sensor will turn the pump off electrically. Hydraulic system hoses from the remote power unit to the cab shall be 3,000 psi rated to allow for long life and durability. Location and position of hydraulic pack must be kept as current to ensure exhaust out of the building.

F. SWING SYSTEM

The system shall meet the minimum speed requirements. It shall be independent of the main system and capable of 360-degree, non-continuous rotation.

G. GRAPPLE

The grapple shall be of heavy duty, all welded, construction and capable of picking and compacting refuse. The minimum-volume capacity of the grapple shall be 1/3 cu. yd. Hoses and fitting shall be protected from snagging and breaking. Grapple shall not rotate.

H. OPERATOR'S CABIN AND SEAT

The operator's cabin shall be mounted on the left side of the boom and shall allow visibility in all directions for the operator. Glass used shall be automotive type safety glass with a polymer film. The operator's seat will be fully adjustable in relation to the controls. Cab shall be manufactured with provision for insertion of an AC duct from an existing wall mount air conditioning and heating system. Cab shall be equipped with an access ladder and covered access holes for removal as needed. A windshield washer system is required.

I. CONTROLS

Crane controls shall provide for "raise", "swing" and the necessary grapple function controls. Controls shall be dual joy-sticks left (2ea) and right (2ea), lever wristing.

J. ANCHOR BOLTS

The successful bidder shall provide the required anchor bolts, (24) bolts, for installation of the crane, which shall be 1" diameter, A687-4140 heat-treated type, or equivalent. Crane anchor bolts shall be precisely located as detailed on drawings. The template illustrating the bolt pattern shall be submitted three (3) weeks before delivery.

K. TESTING

Crane shall be factory tested for a minimum of four (4) hours prior to shipping. A Test Certificate shall be provided at the time of Crane delivery.

3.9 QUALITY ASSURANCE

- A. The crane shall be supplied by a manufacturer with a minimum of five (5) years experience supplying specified equipment in similar applications.
- B. Installation: Provide a qualified manufacturer's representative to supervise work related to equipment installation, check out and start up.
- C. Training: Provide technical representative to train Department of Solid Waste Management maintenance personnel in operation and maintenance of specified equipment or approved equal.

3.10 INSTRUCTION MANUALS

The successful bidder shall furnish three (3) copies of service manuals including but not limited to detailed parts lists, installation, operation and maintenance instructions, and schematic drawings of hydraulic and electrical controls. A list of recommended spare parts with prices shall be included in the service manuals.

The successful bidder shall review shop drawings and product data including those by his/her subcontractors/vendors/suppliers prior to submission to determine and verify the following:

- 1) Field measurements
- 2) Field construction/erection criteria
- 3) Catalog numbers and similar data
- 4) Conformance with the specifications.

The review and approval of shop drawings, and product data by the ENGINEER shall not relieve the successful bidder from his/her responsibility with regard to the fulfillment of the terms of the contract. All risks of error and omission are assumed by the vendor. The ENGINEER shall have no responsibility thereof.

3.11 FINAL ACCEPTANCE

The date of Final Acceptance shall be the date on which the installation is sufficiently completed in accordance with the Contract Documents so that the County can operate the crane for the use that it was intended.

The following items must be satisfied before FINAL ACCEPTANCE will be approved:

- 1) All work must be completed to the satisfaction of the County Engineer.
- 2) Crane shall be fully operational.
- 3) All required submittal items have been received and approved.